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WU-CHUN FENG

PERSONAL

Nickname:	Wu.	Birth Year:	1966.
Gender:	Male.	Birth Place:	Ann Arbor, Michigan, U.S.A.

RESEARCH INTERESTS

High-performance networking and computing, computational and data grids, ubiquitous computing, real-time systems, bioinformatics, and cyber-security.

EDUCATION

8/90 – 5/96	University of Illinois at Urbana-Champaign, Urbana, IL Ph.D. in Computer Science Thesis: <i>Applications and Extensions of the Imprecise-Computation Model</i> Advisor: Professor Jane W.-S. Liu	GPA: 5.00/5.00
8/88 – 12/89	The Pennsylvania State University, University Park, PA M.S. in Computer Engineering Thesis: <i>A Learn-by-Example, Natural-Language Processor Based on Case-Frame Instantiation</i> Advisor: Professor Rangachar Kasturi	GPA: 4.00/4.00
8/84 – 5/88	The Pennsylvania State University, University Park, PA B.S. in Computer Engineering & B.S. Honors in Music Computer Engineering Thesis: <i>A Natural-Language Interface for a Paper-Based Map Information System</i> Advisor: Professor Rangachar Kasturi Music Thesis: <i>Compositions in Popular Music for the Piano</i> Advisor: Professor W. Bruce Trinkley	GPA: 3.82/4.00

PROFESSIONAL EXPERIENCE

12/03 – now	<i>Member of the Board of Directors</i> Compufarm, Palo Alto, CA. <ul style="list-style-type: none">Non-profit organization established to provide ubiquitous technology infrastructure (i.e., grid of clusters) to rural as well as urban (but economically disadvantaged) areas.
10/00 – now	<i>Team Leader & Technical Staff Member</i> (“tenured” in September 2000) Research & Development in Advanced Network Technology (RADIANT) Advanced Computing Laboratory at Los Alamos National Laboratory, Computer & Computational Sciences Division, Los Alamos, NM <ul style="list-style-type: none">Staff: 3-5 team members, 3-5 cross-team collaborators, and 3-5 students.Technical lead & principal investigator on projects in the following areas: high-performance networking and computing, network traffic characterization, monitoring tools, network protocols (OS-based and OS-bypass), computational grids, distributed resource management, bioinformatics, and cyber-security.

- 5/99 – now *Founder & Director*
Advanced Summer Curriculum for Emerging Network Technologies (ASCENT), Los Alamos, NM
- A highly focused program for students interested in networking-related research.
- 11/98 – now *Institute Fellow*
Los Alamos Computer Science Institute at Los Alamos National Laboratory, Los Alamos, NM
- “Think tank” for fundamental research in computer science & engineering.
- 4/00 – 4/02,
8/02 – 8/03 *Adjunct Assistant Professor*
Department of Computer & Information Science at the Ohio State University, Columbus, OH
- Research collaboration with Los Alamos National Laboratory
 - M.S./Ph.D. thesis advising
- 10/98 – 10/00 *Adjunct Assistant Professor*
School of Electrical & Computer Engineering at Purdue University, W. Lafayette, IN
- Research collaboration with Los Alamos National Laboratory.
- 12/98 – 10/00 *Technical Leader & Technical Staff Member* (tenured in September 2000)
Network Engineering Group at Los Alamos National Laboratory, Los Alamos, NM
- Proposal writing and research in network traffic characterization, high-performance TCP, high-speed network interface cards, OS-bypass protocols, and distributed resource management.
- 9/98 – 12/98 *Technical Staff Member*
Network Engineering Group at Los Alamos National Laboratory, Los Alamos, NM
- Network traffic characterization.
 - TCP congestion control over wide-area networks.
- 8/96 – 5/98 *Visiting Assistant Professor*
Department of Computer Science at the University of Illinois at Urbana-Champaign, Urbana, IL
- Teaching: computer architecture, software engineering, and computer networks.
 - Research: real-time systems, networks, and multimedia (see work at Vosaic).
- 2/97 – 6/97 *Research Scientist*
Vosaic Corporation, Champaign, IL
- VDP: Video Datagram Protocol (streaming of audio and video over the Internet).
 - AC-3™: Java-based real-time audio decoder.
- 8/92 – 8/96 *Research Assistant*
Department of Computer Science at the University of Illinois at Urbana-Champaign, Urbana, IL
- Real-time systems and networks.
 - End-to-end scheduling.
 - Imprecise computation.
- 6/93 – 8/93 *Research Consultant*
Spacecraft Data Systems at NASA Ames Research Center, Mt. View, CA
- Space Station Freedom (now International Space Station).
- 8/91 – 8/92 *Research Assistant*
Department of Computer Science at the University of Illinois at Urbana-Champaign, Urbana, IL
- Performance metering & compiler optimization of concurrent object-oriented programs.
- 8/90 – 8/91 *Teaching Assistant*
Department of Computer Science at the University of Illinois at Urbana-Champaign, Urbana, IL
- Artificial intelligence (Fall 1990), object-oriented programming (Spring 1991), communication networks for computers (Summer 1991).
- 1/90 – 7/90 *Applications Research Programmer*
IBM T.J. Watson Research Center, Yorktown Heights, NY
- Project: Systems integration and research of speech, handwriting, and gesture recognition systems.

- 8/88 – 12/89 *Teaching Fellow*
 Electrical Engineering Department at the Pennsylvania State University, University Park, PA
- Digital design & VLSI system design.
 - Electrical circuits and power distribution.
- 7/88 – 8/88 *Technical Coordinator*
 NSF Young Scholars Academy at the Pennsylvania State University, University Park, PA
- Computer curriculum development.
 - Software development & maintenance.

TEACHING EXPERIENCE

- 8/96 – 5/98 *Visiting Assistant Professor*
 Department of Computer Science at University of Illinois at Urbana-Champaign, Urbana, IL
- CS 105: Introduction to Computer Science
 Content: Object-oriented programming with Visual Basic.
 Class Profile: 750 undergraduate students.
 Class Support: 9 half-time teaching assistants and 9 graders.
 - CS/ECE 232: Computer Architecture II
 Content: Computer Organization & Design, Patterson & Hennessy.
 Class Profile: 145 undergraduate students and 5 graduate students.
 Class Support: 1 half-time teaching assistant, 1 quarter-time teaching assistant, 2 graders.
 - CS/ECE 338: Communication Networks for Computers
 Content: Computer Networks: A Systems Approach, Peterson & Davie.
 Class Profile: 100 undergraduate students and 60 graduate students.
 Class Support: 2 half-time teaching assistant and 2 graders.
- 8/90 – 8/91 *Teaching Assistant*
 Department of Computer Science at University of Illinois at Urbana-Champaign, Urbana, IL
- CS 105: Introduction to Computer Science
 - CS/ECE 338: Communication Networks for Computers
 - CS/ECE 348: Introduction to Artificial Intelligence
- 8/88 – 12/89 *Teaching Fellow*
 Electrical Engineering Department at the Pennsylvania State University, University Park, PA
- CMPEN 271: Digital System Design
 - CMPEN 449: VLSI System Design
 - EE 220: Electrical Circuits and Power Distribution

PUBLICATIONS

Textbook

R. Devon and W. Feng, *Fortran at the Keyboard*, Kendall/Hunt Publishing Company, Dubuque, IA, September 1989.

Report

Network Provisioning and Protocols for DOE Large-Scale Scientific Applications, expected publication in December 2003.
 Program Vice-Chair and Working Group Chair with Prof. Donald Towsley of the University of Massachusetts.
 DOE Science Networking Challenge: Roadmap to 2008, August 2003. Primary Contributor and Working Group Chair.
 DOE/NSF Large-Scale Network Security Workshop, May 2003. Primary Contributor.

Journal & Magazine

J. Hurwitz and W. Feng, "End-to-End Performance of 10-Gigabit Ethernet on Commodity Systems," *IEEE Micro*, January-February 2004. (A preliminary version of this paper appeared in *IEEE Hot Interconnects: A Symposium on High-Performance Interconnects* in August 2003 and was selected as one of the best papers, and hence, invited for publication in a special issue of *IEEE Micro*.)

- W. Feng, "Making a Case for Efficient Supercomputing," *ACM Queue*, October 2003.
- W. Feng, M. Gardner, M. Fisk, and E. Weigle, "Automatic Flow-Control Adaptation for Enhancing Network Performance in Computational Grids," *Journal of Grid Computing* (Inaugural Issue), Vol. 1, No. 1, 2003.
- M. Gardner, S. Thulasidasan, and W. Feng, "User-Space Auto-Tuning for TCP Flow Control in Computational Grids," *Computer Communications*, 2003.
- W. Feng, M. Fisk, M. Gardner, and E. Weigle, "Dynamic Right-Sizing: An Automated, Lightweight, and Scalable Technique for Enhancing Grid Performance," *Lecture Notes in Computer Science*, Vol. 2334, 2002. (A preliminary version of this paper appeared in the 7th IFIP/IEEE Workshop on Protocols for High-Speed Networks.)
- W. Feng, M. Gardner, and J. Hay, "The MAGNeT Toolkit: Design, Evaluation, and Implementation," *Journal of Supercomputing*, Vol. 23, No. 1, August 2002. (A preliminary version of this paper appeared in the 2001 Los Alamos Computer Science Institute Symposium and was invited for journal publication.)
- A. Feng, A. Kapadia, W. Feng, and G. Belford, "Packet Spacing: An Enabling Mechanism for the Delivery of Multimedia Content," *Journal of Supercomputing*, Vol. 23, No. 1, August 2002. (A preliminary version of this paper appeared in the 2001 Los Alamos Computer Science Institute Symposium and was invited for journal publication.)
- W. Feng, "Research & Development in Advanced Network Technology (RADIANT)," *In Brief Contribution, D-Lib Magazine* (<http://www.dlib.org>), ISSN 1082-9873, Vol. 8, No. 3, March 2002.
- F. Petrini, W. Feng, A. Hoisie, S. Coll, and E. Frachtenberg, "The Quadrics Network (QsNet): High-Performance Clustering Technology" (Extended Version), *IEEE Micro*, January-February 2002. (A preliminary version of this paper appeared in *IEEE Hot Interconnects: A Symposium on High-Performance Interconnects* in August 2001 and was selected as one of the best papers, and hence, invited for publication in a special issue of *IEEE Micro*.)
- F. Petrini and W. Feng, "Improved Resource Utilization with Buffered Coscheduling," *Journal of Parallel Algorithms & Applications* (Special Issue), Vol. 16, 2001.
- F. Petrini and W. Feng, "Time-Sharing Parallel Jobs in the Presence of Multiple Resource Requirements," *Lecture Notes in Computer Science*, Vol. 1911, 2000. (A preliminary version of this paper appeared in the *Workshop on Job Scheduling Strategies for Parallel Processing*, 2000.)
- W. Feng and J. W.-S. Liu, "Algorithms for Scheduling Real-Time Tasks with Input Error and End-to-End Deadlines," *IEEE Transactions on Software Engineering*, February 1997.
- A. Chien, W. Feng, V. Karamcheti, and J. Plevyak, "Techniques for Efficient Execution of Concurrent Object-Oriented Programs," *Lecture Notes in Computer Science*, Vol. 757, 1993. (A preliminary version of this paper appeared in the *Workshop on Languages and Compilers for Parallel Computing*, 1993.)
- R. Kasturi, R. Fernandez, M. Amlani, and W. Feng, "Map Data Processing in Geographic Information Systems," *IEEE Computer*, December 1989.

Conference

- M. Gardner, W. Deng, T. S. Markham, C. Mendes, W. Feng, and D. Reed, "A High-Fidelity Software Oscilloscope for Globus," *globusWORLD 2004*, San Francisco, CA, January 2004. (Acceptance Rate: Unknown.)
- W. Feng, J. Hurwitz, H. Newman, S. Ravot, L. Cottrell, O. Martin, F. Coccetti, C. Jin, D. Wei, and S. Low, "Optimizing 10-Gigabit Ethernet for Networks of Workstations, Clusters, and Grids: A Case Study," *SC 2003: High-Performance Networking and Computing Conference*, Phoenix, AZ, November 2003. (Acceptance Rate: 28%.)
- F. Moraes and W. Feng, "Analyzing and Enhancing Parallel I/O in mpiBLAST" (poster), *SC 2003: High-Performance Networking and Computing Conference*, Phoenix, AZ, November 2003. (Acceptance Rate: 35%.)
- W. Feng and F. Moraes, "mpiBLAST: A Tool for Interactive Bioinformatics" (poster), *NIH Symposium on Bioinformatics and Computational Biology – Digital Biology: The Emerging Paradigm*, Bethesda, MD, November 2003. (Acceptance Rate: Unknown.)
- K. Pattabiraman, W. Feng, and D. Reed, "Profile-Based Dynamic Voltage Scaling for I/O-Intensive Codes" (poster), *Los Alamos Computer Science Institute Symposium (LACSI'03)*, Santa Fe, NM, October 2003. (Acceptance Rate: Unknown.)
- M. Veeraraghavan, X. Zheng, H. Lee, M. Gardner, and W. Feng, "CHEETAH: Circuit-Switched High-Speed End-to-End Transport Architecture," *Best Paper Award, SPIE/IEEE Optical Networking and Computer Communications Conference (OptiComm)*, Dallas, TX, October 2003. (Acceptance Rate: 35%.)
- W. Feng, "Green Destiny + mpiBLAST = Bioinformagic," *10th International Conference on Parallel Computing 2003 (ParCo'03): Bioinformatics Minisymposium*, September 2003. (Invited Talk and Paper.)
- J. Hurwitz and W. Feng, "Initial End-to-End Performance Evaluation of 10-Gigabit Ethernet," *IEEE Hot Interconnects*, Palo Alto, CA, August 2003. (Acceptance Rate: Unknown.)
- A. Darling, L. Carey, and W. Feng, "The Design, Implementation, and Evaluation of mpiBLAST," *Best Paper: Applications Track, ClusterWorld Conference & Expo 2003* in conjunction with the 4th International Conference on Linux Clusters: The HPC Revolution 2003, San Jose, CA, June 2003. (Acceptance Rate: Unknown.)
- S. Thulasidasan, W. Feng, and M. Gardner, "Optimizing GridFTP Through Dynamic Right-Sizing," *IEEE Symposium on High-Performance Distributed Computing (HPDC'03)*, Seattle, WA, June 2003. (Acceptance Rate: 21%.)
- M. Gardner, W. Feng, M. Broxton, G. Hurwitz, and A. Engelhart, "Online Monitoring of Computing Systems with MAGNET," *IEEE/ACM Symposium on Cluster Computing and the Grid (CCGrid'03)*, Tokyo, Japan, May 2003. (Acceptance Rate: 34%.)

- M. Gardner, M. Broxton, A. Engelhart, and W. Feng, "MUSE: A Software Oscilloscope for Clusters and Grids," *IEEE International Parallel & Distributed Processing Symposium*, Nice, France, April 2003. (Acceptance Rate: 30%.)
- A. Darling, A. Engelhart, and W. Feng, "An Open-Source Parallelization of BLAST" (poster), *O'Reilly Bioinformatics Technology Conference (BioCon'03)*, San Diego, CA, February 2003. (Acceptance Rate: Unknown.)
- W. Feng and S. Vanichpun, "Ensuring Compatibility Between TCP Reno and TCP Vegas," *IEEE Symposium on Applications and the Internet (SAINT'03)*, Orlando, FL, January 2003. (Acceptance Rate: 29%.)
- W. Feng, "An Integrated Multimedia Environment for Speech Recognition Using Handwriting and Written Gestures," *Hawaii International Conference on System Sciences (HICSS-36)*, Big Island, HI, January 2003. (Acceptance Rate: Unknown.)
- A. Darling, L. Carey, and W. Feng, "mpiBLAST: Delivering Super-Linear Speedup with an Open-Source Parallelization of BLAST" (poster), *Pacific Symposium on Biocomputing (PSB'03)*, Lihue, HI, January 2003. (Acceptance Rate: Unknown.)
- M. Warren, E. Weigle, and W. Feng, "High-Density Computing: A 240-Processor Beowulf in One Cubic Meter," *SC 2002: High-Performance Networking and Computing Conference*, Baltimore, MD, November 2002. (Acceptance Rate: 29%.)
- A. Darling and W. Feng, "mpiBLAST: Parallelization of BLAST for Computational Clusters" (poster), *SC 2002: High-Performance Networking and Computing Conference*, Baltimore, MD, November 2002. (Acceptance Rate: 35%.)
- W. Feng, A. Kapadia, and S. Thulasidasan, "GREEN: Proactive Queue Management over a Best-Effort Network," *IEEE GLOBECOM 2002*, Taipei, Taiwan, R.O.C., November 2002. (Acceptance Rate: 30%.)
- S. Vanichpun and W. Feng, "On the Transient Behavior of TCP Vegas," *IEEE International Conference on Computer Communications and Networks (IC3N'02)*, Miami, FL, October 2002. (Acceptance Rate: 29%.)
- W. Feng, "Securing Wireless Communication in Heterogeneous Environments," *IEEE MILCOM 2002*, October 2002. (Acceptance Rate: Unknown.)
- W. Feng, M. Warren, and E. Weigle, "The Bladed Beowulf: A Cost-Effective Alternative to Traditional Beowulfs," *IEEE Cluster 2002*, Chicago, IL, September 2002. (Acceptance Rate: 39%.)
- W. Feng and J. Al-Muhtadi, "A General Security Infrastructure for Wireless Communication," *IEEE International Conference on Networks (ICN'02)*, Atlanta, GA, August 2002. (Acceptance Rate: Unknown.)
- N. Rao and W. Feng, "Performance Tradeoffs of TCP Adaptation Methods," *IEEE International Conference on Networks (ICN'02)*, Atlanta, GA, August 2002. (Acceptance Rate: Unknown.)
- A. Darling and W. Feng, "BLASTing Off with Green Destiny" (poster), *IEEE Computer Society Bioinformatics Conference (CSB'02)*, Palo Alto, CA, August 2002. (Acceptance Rate: Unknown.)
- W. Feng, M. Warren, and E. Weigle, "Honey, I Shrunk the Beowulf?" *31st International Conference on Parallel Processing (ICPP'02)*, Vancouver, Canada, August 2002. (Acceptance Rate: 36%.)
- M. Gardner, W. Feng, and M. Fisk, "Dynamic Right-Sizing in FTP (drsFTP): An Automatic Technique for Enhancing Grid Performance," *IEEE Symposium on High-Performance Distributed Computing (HPDC'02)*, Edinburgh, Scotland, July 2002. (Acceptance Rate: 31%.)
- E. Weigle and W. Feng, "A Comparison of TCP Automatic-Tuning Techniques for Distributed Computing," *IEEE Symposium on High-Performance Distributed Computing (HPDC'02)*, Edinburgh, Scotland, July 2002. (Acceptance Rate: 31%.)
- M. Fisk and W. Feng, "Dynamic Right-Sizing: TCP Flow-Control Adaptation" (poster), *SC 2001: High-Performance Networking and Computing Conference*, Denver, CO, November 2001. (Acceptance Rate: 35%.)
- J. Hay, W. Feng, and M. Gardner, "Capturing Network Traffic with a MAGNeT," *Annual Linux Showcase & Conference (ALS'01)*, Oakland, CA, November 2001. (Acceptance Rate: Unknown.)
- E. Weigle and W. Feng, "Dynamic Right-Sizing in TCP: A Simulation Study," *IEEE International Conference on Computer Communications and Networks (IC3N'01)*, Scottsdale, AZ, October 2001. (Acceptance Rate: 31%.)
- W. Feng, J. Hay, and M. Gardner, "MAGNeT: Monitor for Application-Generated Network Traffic," *IEEE International Conference on Computer Communications and Networks (IC3N'01)*, Scottsdale, AZ, October 2001. (Acceptance Rate: 31%.)
- J. Al-Muhtadi, W. Feng, and M. Fisk, "An Inter-Realm, Cyber-Security Infrastructure for Virtual Supercomputing," *Los Alamos Computer Science Institute Symposium (LACSI'01)*, Santa Fe, NM, October 2001. (Acceptance Rate: Unknown.)
- A. Feng, W. Feng, and G. Belford, "Packet Spacing: An Enabling Mechanism for the Delivery of Multimedia Content," *Los Alamos Computer Science Institute Symposium (LACSI'01)*, Santa Fe, NM, October 2001. (Acceptance Rate: Unknown.)
- M. Fisk and W. Feng, "Dynamic Right-Sizing in TCP," *Los Alamos Computer Science Institute Symposium (LACSI'01)*, Santa Fe, NM, October 2001. (Acceptance Rate: Unknown.)
- J. Hay, W. Feng, and M. Gardner, "The Design, Implementation, and Evaluation of MAGNeT," *Los Alamos Computer Science Institute Symposium (LACSI'01)*, Santa Fe, NM, October 2001. (Acceptance Rate: Unknown.)
- F. Petrini, W. Feng, A. Hoisie, S. Coll, and E. Frachtenberg, "The Quadrics Network (QsNet): High-Performance Clustering Technology," *IEEE Hot Interconnects*, Palo Alto, CA, August 2001. (Acceptance Rate: Unknown.)
- E. Weigle and W. Feng, "A Case for TCP Vegas in High-Performance Computational Grids," *IEEE International Symposium on High-Performance Distributed Computing (HPDC'01)*, San Francisco, CA, August 2001. (Acceptance Rate: Unknown.)
- A. Kapadia, A. Feng, and W. Feng, "The Effects of Inter-Packet Spacing on the Delivery of Multimedia Content," *IEEE International Conference on Distributed Computing Systems (ICDCS'01)*, Phoenix, AZ, April 2001. (Acceptance Rate: 31%.)
- W. Feng and P. Tinnakornsrisuphap, "The Failure of TCP in High-Performance Computational Grids," *SC 2000: High-*

- Performance Networking and Computing Conference*, Dallas, TX, November 2000. (Acceptance Rate: 29%.)
- W. Feng, "Network Traffic Characterization of TCP," *IEEE MILCOM 2000*, Los Angeles, CA, October 2000. (Acceptance Rate: Unknown.)
- W. Feng and P. Tinnakornsriruphap, "The Adverse Impact of the TCP Congestion-Control Mechanism in Heterogeneous Computing Systems," *International Conference on Parallel Processing (ICPP'00)*, Toronto, Canada, August 2000. (Acceptance Rate: 38%.)
- F. Petrini and W. Feng, "Buffered Co-Scheduling: A New Methodology for Multitasking Parallel Jobs on Distributed Systems," *IEEE International Parallel & Distributed Processing Symposium (IPDPS'00)*, Cancun, Mexico, May 2000. (Acceptance Rate: 35%.)
- P. Tinnakornsriruphap, W. Feng, and I. Philp, "On the Burstiness of the TCP Congestion-Control Mechanism in a Distributed Computing System," *IEEE International Conference on Distributed Computing Systems (ICDCS'00)*, Taipei, Taiwan, R.O.C., April 2000. (Acceptance Rate: 39%.)
- F. Petrini and W. Feng, "Scheduling with Global Information in Distributed Systems," *IEEE International Conference on Distributed Computing Systems (ICDCS'00)*, Taipei, Taiwan, R.O.C., April 2000. (Acceptance Rate: 39%.)
- F. Petrini and W. Feng, "Efficient Resource Utilization on a Massively Parallel System," *7th International Conference on Advanced Computing and Communications (ADCOM'99)*, Roorkee, India, December 1999. (Acceptance Rate: Unknown.)
- D. Tolmie, T. M. Boorman, A. DuBois, D. DuBois, W. Feng, and I. Philp, "From HiPPI-800 to HiPPI-6400: A Changing of the Guard and Gateway to the Future," *6th International Conference on Parallel Interconnects (PI '99)*, Anchorage, AK, October 1999. (Acceptance Rate: Unknown.)
- W. Feng, "Dynamic Client-Side Scheduling in a Real-Time CORBA System," *IEEE International Computer Software and Applications Conference (COMPSAC 99)*, Phoenix, AZ, October 1999. (Acceptance Rate: Unknown.)
- W. Feng, "Extending CORBA for Soft Real-Time Applications," *International Conference on Networks and Communication Systems*, Pittsburgh, PA, May 1998. (Acceptance Rate: Unknown.)
- W. Feng, "An In-Depth Study of Multimedia Traffic Control Over ATM," *International Conference on Networks and Communication Systems*, Pittsburgh, PA, May 1998. (Acceptance Rate: Unknown.)
- D. Hull, W. Feng, and J. W.-S. Liu, "Operating System Support for Imprecise Computation," *AAAI Fall Symposium on Flexible Computation*, Cambridge, MA, November 1996. (Acceptance Rate: Unknown.)
- W. Feng and J. W.-S. Liu, "Performance of a Congestion-Control Scheme on an ATM Switch," *International Conference on Networks*, Orlando, FL, January 1996. (Acceptance Rate: Unknown.)
- W. Feng, D. L. Hull, and J. W.-S. Liu, "Enhancing the Performance and Dependability of Real-Time Systems," *IEEE International Computer Performance and Dependability Symposium*, Erlangen, Germany, April 1995. (Acceptance Rate: Unknown.)
- V. Lopez-Millan, W. Feng, and J. W.-S. Liu, "Using the Imprecise-Computation Technique for Congestion Control on a Real-Time Traffic Switching Element," *IEEE International Conference on Parallel and Distributed Systems*, Hsinchu, Taiwan, R.O.C., December 1994. (Acceptance Rate: Unknown.)
- W. Feng, "Parallel Spinodal Decomposition," *26th Annual Summer Computer Simulation Conference*, San Diego, CA, July 1994. (Acceptance Rate: Unknown.)
- W. Feng, "An Intelligent System for Map Data Processing in Geographic Information Systems," *International Conference on Intelligent Information Management Systems*, Washington, D.C., June 1994. (Acceptance Rate: Unknown.)
- W. Feng, "Using Handwriting and Gesture Recognition to Correct Speech-Recognition Errors," Best Paper Award, *10th International Conference on Advanced Science and Technology*, Chicago, IL, March 1994. (Acceptance Rate: Unknown.)
- W. Feng, "A Natural Language Interface to Paper-Based Maps," *ACM International Conference on Human-Computer Interaction*, Boston, MA, September 1989. (Acceptance Rate: Unknown.)

Workshop

- W. Feng, M. Fisk, M. Gardner, and E. Weigle, "Dynamic Right-Sizing," *7th IFIP/IEEE Workshop on Protocols for High-Speed Networks*, Berlin, Germany, April 2002.
- M. Gardner, W. Feng, and J. Hay, "Monitoring Protocol Traffic with a MAGNeT," *Passive & Active Measurement Workshop*, Ft. Collins, CO, March 2002.
- E. Weigle and W. Feng, "TICKETing High-Speed Traffic with Commodity Hardware and Software," *Passive & Active Measurement Workshop*, Ft. Collins, CO, March 2002.
- E. Frachtenberg, F. Petrini, S. Coll, and W. Feng, "Gang Scheduling with Lightweight User-Level Communication," *Workshop on Scheduling and Resource Management for Cluster Computing (in conjunction with the International Conference on Parallel Processing)*, Valencia, Spain, September 2001.
- F. Petrini, A. Hoisie, W. Feng, and R. Graham, "Performance Evaluation of the Quadrics Interconnection Network," *IEEE Workshop on Communication Architectures for Clusters (in conjunction with the IEEE International Parallel & Distributed Processing Symposium)*, San Francisco, CA, April 2001.
- E. Weigle, W. Feng, and M. Gardner, "Why TCP Will Not Scale for the Next-Generation Internet," *IEEE Workshop on Local and Metropolitan Area Networks (LANMAN 2001)*, Boulder, CO, March 2001.
- W. Feng, "The Future of High-Performance Networking," *Workshop on New Visions for Large-Scale Networks: Research &*

- Applications*, Invited Paper, Vienna, VA, March 2001. (Sponsors: Federal Large-Scale Networking Working Group, DARPA, DOE, NASA, NIST, NLM, and NSF.)
- W. Feng, "The Design of an Open Real-Time System Using CORBA," *IEEE Workshop on Multimedia Network Systems (in conjunction with the International Conference on Parallel Processing)*, September 1999.
- W. Feng, U. Syyid, and J. W.-S. Liu, "Providing for an Open Real-Time CORBA," *IEEE Workshop on Middleware for Distributed Real-Time Systems and Services (in conjunction with the IEEE Real-Time Systems Symposium)*, December 1997.
- W. Feng and J. W.-S. Liu, "Time-Constrained Speech Processing and Generation," *IEEE Workshop on Real-Time Applications*, New York, NY, May 1993.
- A. Chien and W. Feng, "Efficient Implementation of Concurrent Object-Oriented Programs," *Workshop on Languages and Compilers for Parallel Computing*, May 1992.
- A. Chien and W. Feng, "GST: Grain-Size Tuning for Efficient Execution of Symbolic Programs," *Workshop on Compilation of Symbolic Languages for Parallel Computers*, San Diego, CA, October 1991.

PATENTS

Buffered Co-Scheduling: A New Methodology for Multitasking Parallel Jobs on Distributed Systems, 2001.

INVITED TALKS & COLLOQUIA

- Green Destiny + mpiBLAST = Bioinformagic*, 10th International Conference on Parallel Computing 2003 (ParCo'03): Bioinformatics Minisymposium, September 2003.
- Bridging the Disconnect Between the Network and Large-Scale Scientific Applications*, ACM SIGCOMM Workshop on Network-I/O Convergence: Experiences, Lessons, and Implications (NICELI), August 2003.
- Green Destiny: A "Cool" 240-Node Cluster in a Telephone Booth*, Future Computing Conference at the Royal United Services Institute for Defence and Security Studies, July 2003. Keynote Talk.
- Report from the High-Performance Networking Workshop*, DOE Science Network Workshop, June 2003.
- Green Destiny: A 240-Node Compute Cluster in One Cubic Meter*, Server Blade Summit, March 2003.
- Green Destiny: A 240-Node Compute Cluster in One Cubic Meter*, Rocky Mountain Institute Data Center Charrette, February 2003. Keynote Talk.
- Green Destiny: Energy-Efficient Supercomputing*, 15th Annual E-Source Forum, November 2002.
- On the Compatibility of TCP Reno & TCP Vegas*, Toyota Technological Institute at Chicago, October 2002.
- Systems & Network Research for Grids*, Argonne National Laboratory, October 2002.
- Green Destiny: A 240-Node Compute Cluster in One Cubic Meter*, University of Illinois at Urbana-Champaign (also broadcast over the Internet via the Access Grid), October 2002.
- Green Destiny: A 240-Node Compute Cluster in One Cubic Meter*, Eli Lilly and Company, September 2002.
- Supercomputing in Small Spaces*, Transmeta Corporation, August 2002.
- Systems & Network Research at Los Alamos National Laboratory*, Oregon Graduate Institute of Science & Technology, May 2002.
- The Future of High-Performance Networking*, Rice University, January 2002.
- High-Performance Networking Research: Issues for Today's & Tomorrow's High-Performance Computing Environments*, DOE SciDAC, January 2002.
- High-Speed Network Monitoring and Measurement with Commodity Parts*, DARPA Next-Generation Internet, January 2002.
- High-Speed Measurement and Monitoring with Commodity Parts*, Rice University, January 2002.
- The Software Metaphor for LAN PHY ≠ WAN PHY: Why High-Speed Networking in Clusters ≠ High-Speed Networking in Grids*, 10 Gigabit Ethernet Workshop, San Diego Supercomputing Center, October 2001.
- A Failure Model for Large-Scale Computers and an Infrastructure for Enabling Fault Tolerance*, Workshop on Fault Tolerance, Sandia National Laboratory, April 2001.
- The Future of High-Performance Networking*, Workshop on New Visions for Large-Scale Networks: Research & Applications, Vienna, VA, March 2001. (Sponsors: Federal Large Scale Networking Working Group, DARPA, DOE, NASA, NIST, NLM, NSF.)
- The Failure of TCP over High-Performance Computational Grids*, U. of Illinois at Urbana-Champaign, Jan. 2001.
- Buffered Coscheduling: A New Methodology for Multitasking Parallel Jobs on Distributed Systems*, U. of Oregon, June 2000.
- Network Traffic Characterization of TCP in Distributed Computational Grids*, U. of Oregon, June 2000.
- High-Performance Networking in Parallel Computing Systems*, Ohio State U., January 2000.
- Buffered Coscheduling: A New Methodology for Multitasking Parallel Jobs on Distributed Systems*, U. of Utah, January 2000.
- High-Performance Networking in Distributed Computational Grids*, U. of Illinois at Urbana-Champaign, November 1999.
- Network Interface Cards as First-Class Citizens*, Ohio State U., November 1999.
- Applications & Extensions to the Imprecise-Computational Model*, U. of Virginia, January 1998.

ADVISEES (SUMMER, CO-OP, POSTDOCS, FULL-TIME, REMOTE)

Jalal Al-Muhtadi, Cybersecurity for Grids, Dept. of Computer Science, Univ. of Illinois at Urbana-Champaign, 2001.
Jeremy Archuleta, Systems Support for Clusters & Grids, Dept. of Electrical Engineering & Computer Science, 2003-now.
Sami Ayyorgun, Traffic Characterization, Dept. of Electrical & Computer Engineering, Univ. of California at San Diego, 2002-now.
Jeremy Archuleta, Systems Support for Clusters & Grids, Dept. of Electrical Engineering & Computer Science, Univ. of California at Berkeley, 2003-now.
Michael Broxton, Systems Support for Clusters & Grids, Dept. of Elec. Engg. & Comp. Sci., Massachusetts Institute of Technology, 2002.
Lucas Carey, Bioinformatics, Center for Developmental Genomics, SUNY at Stony Brook, 2003.
Aaron Darling, Bioinformatics, Computer Sciences Dept., Univ. of Wisconsin-Madison, 2002.
Adam Engelhart, Systems Support for Clusters & Grids, Computer Sciences Dept., Univ. of Wisconsin-Madison, 2002-now.
Mark Gardner, Systems Support for Clusters & Grids, Dept. of Computer Science, Univ. of Illinois at Urbana-Champaign, 2000-2002.
Michael Hoisie, Los Alamos High School, 2003.
Chung-Hsing Hsu, Power-Aware Computing Systems, Dept. of Computer Science, Rutgers University, 2003-now.
Justin (Gus) Hurwitz, High-Performance Networking, Liberal Arts, Santa Fe College, 2002-now.
Apu Kapadia, Network Protocols and Routers, Dept. of Computer Science, Univ. of Illinois at Urbana-Champaign, 2000 & 2002-now.
Houssain Kettani, Traffic Characterization, Electrical & Computer Engineering Dept., Univ. of Wisconsin-Madison, 1999.
Fernando Moraes, Bioinformatics, Dept. of Computer Science, Columbia University, 2003-now.
Karthik Pattabiraman, Profiling & Adaptation for Power-Aware Systems, Univ. of Illinois at Urbana-Champaign, 2003-now.
Fabrizio Petrini, High-Performance Networking, Dept. of Computer Science, University of Pisa, 1999-2000.
Sunil Thulasidasan, High-Performance Networking, Computer Science Dept., University of Southern California, 2001-2002.
Peerapol Tinnakornsriruphap, Traffic Characterization, Electrical & Computer Engineering Dept., Univ. of Wisconsin-Madison, 1999.
Sarut Vanichpun, Traffic Characterization, Electrical & Computer Engineering Dept., Univ. of Maryland, 2001 & 2003-now.
Eric Weigle, Systems Support for Clusters & Grids, Computer Sciences Dept., Univ. of Wisconsin-Madison, 2000-2003.

THESIS SUPERVISION & COMMITTEES

Xuan Zheng, *CHEETAH: Circuit-Switched End-to-End Transport Architecture*. University of Virginia, Electrical & Computing Engineering, Ph.D., current.
Peerapol Tinnakornsriruphap. *The Design of an Integrated TCP*. University of Wisconsin at Madison, Electrical & Computer Engineering, M.S. Project Thesis, 6/00.
Umar Syid. *An Open Real-Time CORBA*. University of Illinois at Urbana-Champaign, Computer Science, M.S. Thesis, 5/98.

FUNDING AWARDS & RESEARCH GRANTS

Creating an mpiBLAST for 64-Bit Systems, Principal Investigator. 2004.
Agency: Advanced Micro Devices, Inc. (AMD).
Software-Based Power-Aware Computing, Principal Investigator. 2004.
Agency: DOE Laboratory-Directed Research & Development.
Interface Design for High-Performance Networking. Co-Principal Investigator. 2004-2005.
Agency: Los Alamos National Laboratory-University of California – Cooperative Agreement on Research and Education.
Collaborators: University of California at Riverside (L. Bhuyan)
An Analytical and Empirical Study of mpiBLAST for Clusters and Grids. Principal Investigator. 2004.
Agency: National Computational Science Alliance: Alliance Allocations Board.
Wide-Area Transport and Signaling Protocols for Genome to Life Applications. Principal Investigator. 2004.
Agency: Los Alamos National Laboratory-University of California – Cooperative Agreement on Research and Education.
Collaborators: University of California at Davis (B. Mukherjee, D. Ghosal)
Reliable Networking in System- and Wide-Area Networks. Principal Investigator. 2002-2004.
Agency: Los Alamos Computer Science Institute.
Improvements to TCP over the Wide-Area Network. Principal Investigator. 2002-2004.
Agency: DOE ASCI.
Program: Distributed & Distance Computing (DISCOM).

INCITE: Edge-Based Traffic Processing and Service Inference for High-Performance Networks. Principal Investigator. 2002-2004.
 Agency: DOE Office of Science.
 Program: Scientific Discovery through Advanced Computing (SciDAC).
 Collaborators: Rice University (R. Baraniuk, R. Riedi, E. Knightly, R. Nowak), Stanford Linear Accelerator Center (L. Cottrell).

High-Performance Transport Protocols. Principal Investigator. 2002-2004.
 Agency: DOE Office of Science.
 Program: Base Program.

Smart Routers for Distributed Computational Grids. Principal Investigator. 2001-2003.
 Agency: DOE Laboratory-Directed Research & Development.

Resource Utilization and Parallel Program Development with Buffered Coscheduling. Co-Principal Investigator. 2001-2003.
 Agency: DOE Laboratory-Directed Research & Development.
 Collaborator: CCS-3 at Los Alamos National Laboratory (F. Petrini)

High-Performance TCP over the Next-Generation Internet. Principal Investigator. 2000-2002.
 Agency: DOE Laboratory-Directed Research & Development.

Prototyping an Earth System Grid. Co-Principal Investigator. 1999-2001.
 Agency: DOE Office of Science.
 Program: Next-Generation Internet – Applications, Network Technology & Network Testbed Partnerships.
 Collaborators: Argonne National Laboratory (I. Foster), Lawrence Berkeley National Laboratory (A. Shoshani, B. Tierney), Lawrence Livermore National Laboratory (D. Williams), National Center for Atmospheric Research (S. Hammond), U. Wisconsin (B. Hibbard), USC/ISI (C. Kesselman).

Network Interface Cards as First-Class Citizens. Principal Investigator. 1999-2000.
 Agency: DOE Office of Science.
 Program: Next-Generation Internet – Research in Basic Technologies.

Research Directions in Networking and Computer Architecture. Principal Investigator. 1999-2001.
 Agency: Los Alamos Computer Science Institute.

Flow- and Congestion-Control over High-Speed Networks. Principal Investigator. 1999-2001.
 Agency: DOE ASCI.
 Program: Distance & Distributed Computing (DISCOM)

COLLABORATORS (MOST RECENT)

Academic

California Institute of Technology, Harvey Newman and Steven Low (10-Gigabit Ethernet over a WAN and FAST TCP)
 CERN, Olivier Martin (10-Gigabit Ethernet over a WAN)
 Indiana University, David Hart and Craig Stewart (mpiBLAST)
 National Center for Supercomputing Applications, Lei Liu and Daniel Reed (mpiBLAST and MAGNET+MUSE)
 The Ohio State University, Dhabaleswar K. Panda (OS-Bypass & RDMA Protocols) and Mario Lauria (mpiBLAST)
 Ohio Supercomputing Center, Peter Wyckoff (mpiBLAST)
 Pittsburgh Supercomputing Center, Matthew Mathis (Dynamic Right-Sizing, MAGNET, Web100)
 Rice University, Richard Baraniuk, Rolf Riedi, Edward Knightly, Robert Nowak (Network Measurement and Traffic Characterization)
 Stanford Linear Accelerator Center, R. Les Cottrell (High-Energy Physics, 10-Gigabit Ethernet over a WAN, and Network Monitoring and Measurement)
 University of California at Davis, Biswanath Mukherjee and Dipak Ghosal (WAN Transport)
 University of California at Riverside, Laxmi Bhuyan (High-Speed Network Interfaces)
 University of California at San Diego, Andrew Chien (drsFTP for optIPuter)
 University of Illinois at Urbana-Champaign, Daniel Reed (Power-Aware Supercomputing and Software Oscilloscope for Computational Grids)
 University of Oregon, Allen Malony (Software Oscilloscope for Clusters)
 University of Tennessee, Micah Beck, Terri Moore, James Plank (Dynamic Right-Sizing and Power-Aware Supercomputing)
 University of Virginia, Malathi Veeraraghavan (Optical Networking)

Government Labs

Argonne National Laboratory, William Allcock and Ian Foster (Dynamic Right-Sizing, GridFTP, Earth System Grid)
 Lawrence Berkeley National Laboratory, Brian Tierney (Dynamic Right-Sizing, MAGNET+MUSE, NetLogger, Web100)
 Los Alamos National Laboratory, James Ahrens, Robert Malone, Michael Warren, Murray Wolinsky (Large-Scale Scientific Visualization, Climate Modeling, Theoretical Astrophysics, mpiBLAST)
 Oak Ridge National Laboratory, Thomas Dunigan (Dynamic Right-Sizing, Web100) and Nageswara Rao (Optimizing TCP)

Sandia National Laboratory, Brian Kellogg (10-Gigabit Ethernet for AMD Opterons)

Industry

Advanced Micro Devices (AMD), John Fuchs-Chesney and Doug O'Flaherty (mpiBLAST and 10-Gigabit Ethernet)

Angstrom Microsystems, Lalit Jain (Supercomputing in Small Spaces and 10-Gigabit Ethernet)

ClearSpeed Technology, Tony Heller and Mike Calise (Supercomputing in Small Spaces)

Eli Lilly, Ernst Dow and Sangtae Kim (mpiBLAST)

Intel, Caroline Larson, Peter Molnar, Marc Rillema, Travis Vigil, and Raj Yavatkar (10-Gigabit Ethernet)

J. Craig Venter Science Foundation, Marshall Peterson and J. Craig Venter via AMD above (mpiBLAST and Supercomputing in Small Spaces)

Transmeta, Dean Gaudet, Thomas Jones, David Ditzel (Supercomputing in Small Spaces)

PROFESSIONAL ACTIVITIES

Invited Panels

Battle of the Network Stars!, SC 2003, November 2003. Panel Moderator.

Practical Supercomputing, SC 2003 Bird-of-Feather Panel, November 2003.

High-Performance Interconnection Networks for Cluster Computing, IEEE Hot Interconnects, August 2003.

What is the Future of TCP?, INET 2002, June 2002. Panel Moderator.

Applications of Server Blades, Server Blade Summit 2002, May 2002.

The Adequacy of TCP for High-Performance Computing, SC 2000: High-Performance Networking & Computing Conference, November 2000.

Real-Time CORBA, IEEE Real-Time Systems Symposium (RTSS), December 1997.

Program Chairs and Vice-Chairs

Program Chair, 34th International Conference on Parallel Processing (ICPP), 2005.

Program Vice-Chair, DOE Workshop on Ultra High-Speed Transport Protocols and Dynamic Network Provisioning for Large-Scale Scientific Applications, May 2003.

Program Vice-Chair, 28th International Conference on Parallel Processing (ICPP), 1999.

Program Committees

4th Workshop on Communication Architectures for Clusters (held in conjunction with the 18th IEEE International Parallel & Distributed Processing Symposium), 2004.

1st Workshop on Grids and Advanced Networks (held in conjunction with the 4th IEEE/ACM International Symposium on Cluster Computing and the Grid), 2004.

12th High-Performance Computing Symposium, 2004.

2nd International Workshop on Protocols for Fast Long-Distance Networks (PFLDnet), 2004.

28th IEEE International Conference on Local Computer Networks (LCN), 2003.

12th IEEE International Symposium on High-Performance Distributed Computing (HPDC), 2003.

17th IEEE International Parallel & Distributed Processing Symposium (IPDPS), 2003.

3rd Workshop on Communication Architectures for Clusters (held in conjunction with the 17th IEEE International Parallel & Distributed Processing Symposium), 2003.

27th IEEE International Conference on Local Computer Networks (LCN), 2002.

2nd Workshop on Communication Architectures for Clusters (held in conjunction with the 16th IEEE International Parallel & Distributed Processing Symposium), 2002.

26th IEEE International Conference on Local Computer Networks (LCN), 2001.

30th International Conference on Parallel Processing (ICPP), 2001.

10th IEEE International Symposium on High-Performance Distributed Computing (HPDC), 2001.

1st Workshop on Scheduling and Resource Management for Cluster Computing (held in conjunction with the 30th International Conference on Parallel Processing), 2001.

1st Workshop on Communication Architectures for Clusters (held in conjunction with the 15th IEEE International Parallel & Distributed Processing Symposium), 2001.

12th IEEE/ACM SC 2000: High-Performance Networking and Computing Conference (Area: Architecture, Networks, and Distributed Computing), 2000.

28th International Conference on Parallel Processing (ICPP), 1999.

Proposal Review Committees and Panels

DOE Early Career Principal Investigator, 2002-2003.
DOE Small Business Innovation Research (SBIR) & Small Business Technology Transfer (STTR), 2002-2003.
NSF CISE, 1998-2001.
DOE Laboratory-Directed Research & Development (Directed Research), Los Alamos National Laboratory, 2001-2002.
DOE ASCI Alliance Tri-Lab Strategic Team, DOE ASCI, 2000-2003.
DOE Laboratory-Directed Research & Development (Exploratory Research), Computer Science & Software Engineering, Los Alamos National Laboratory, 1999.

Session Chairs

DOE Science Network Workshop: Roadmap to 2008, Network Research, June 2003.
DOE Workshop on Ultra High-Speed Transport Protocols and Network Provisioning for Large-Science Applications, Transport Group, April 2003.
Software for High-Performance Clusters, 17th International Parallel & Distributed Processing Symposium, April 2003.
Storage Systems, 31st International Conference on Parallel Processing, August 2002.
Network Management, 10th IEEE International Conference on Computer Communications and Networks (IC3N), October 2001.
Support for Network Applications, 10th IEEE International Symposium on High-Performance Distributed Computing, August 2001.
QoS & Fault Tolerance, 12th IEEE/ACM SC 2000, November 2000.
Message Passing, 29th International Conference on Parallel Processing, August 2000.
Interconnection Networks & Network Processors, 14th ACM International Conference on Supercomputing, May 2000.
Network Routing & Deadlock, 28th International Conference on Parallel Processing, September 1999.

Journal Reviewing

IEEE Computer Graphics & Applications, 2002.
IEEE Communications Letters, 2002-2003.
IEEE Transactions on Parallel & Distributed Systems, 2000-2002.
IEEE Network, 2001-2003.
IEEE Transactions on Computers, 1995, 2000, and 2001.
IEEE Transactions on Software Engineering, 1997. (See January 1998 issue.)
IEEE Computer, 1996. (Senior Referee Designation. See December 1996 issue.)

Miscellaneous

Distinguished Speaker, IEEE Distinguished Visitors Program, 2003-2005.
Member, Director's Colloquium Committee, 2002-now.
Member, Accelerated Strategic Computing Initiative (ASCI) Tri-Lab Sponsor Team (TST) – Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratory, 2001-now.
Program Board Member, HPC Linux – ASCI, 2002.
Program Board Member, ASCI Distributed & Distance Computing, 2002.
Member, Computer & Computational Sciences Division Search Committee, 2001.
Member, Steering/Transitional Committee for a New Computer & Computational Sciences Division, 2000.
Reviewer, IEEE/ACM SC (2003), IEEE ICC (2003), IEEE INFOCOM (2002-2004), IEEE WCNC (2002), IEEE Real-Time Systems Symposium (1994-1996), IEEE Real-Time Technology & Applications Symposium (1995-1996), IEEE International Conference on Distributed Computing Systems (1995), IEEE Workshop on Real-Time Applications (1994).
Undergraduate Advisor, Dept. of Computer Science, University of Illinois at Urbana-Champaign, 1993-1996.
Member of the ACM, 1989-present.
Member of IEEE and IEEE Computer Society, 1988-present.
Coordinator of *Engineering Envoys for Computer Engineering*, 1988.
Founder & Coordinator of the *Fortran Lecture Series*, 1988.
Vice-President of *Eta Kappa Nu* Honor Society, Penn State University branch, 1987-1988.

AWARDS & RECOGNITION

Sustained Bandwidth Award (a.k.a. "Moore's Law Move Over!" Award), SC2003 Bandwidth Challenge, November 2003.
<http://www.gridtoday.com/breaking/982.html>.

R&D 100 Award for *Green Destiny: A 240-Processor Supercomputer in a Telephone Booth*, October 2003.
 Best Paper Award, IEEE Optical Networking and Computer Communications Conference (OptiComm), October 2003.
 Distinguished Performance Award, September 2003.
 Distinguished Mentor Performance Award, August 2003.
 Achievement Award for the *Internet2 Land Speed Record*, Los Alamos Awards Program, July 2003.
 Guinness World Book of Records, Internet2 Land Speed Record, Achieved February 2003, Listed Electronically July 2003.
<http://www.guinnessworldrecords.com/index.asp?id=58445>.
 Best Paper: Applications Track, ClusterWorld Conference & Expo in conjunction with the 4th International Conference on Linux Clusters: The HPC Revolution 2003, June 2003.
 On the Road to a Gigabit Award: Biggest, Fastest in the West for “High-Performance Trans-Atlantic Network Testbed,” Sponsored by Corporation of Education Network Initiatives in California (CENIC) and California Institute for Telecommunications and Information Technology, Cal-(IT)2, May 7, 2003.
 Internet2 Land Speed Record, 2.38 Gbps single-stream TCP/IP over a WAN between Sunnyvale, California and Geneva, Switzerland. Achieved: February 27, 2003. Certified: March 27, 2003. Awarded Formally at Internet2 Member Meeting: April 11, 2003. (Note: This achievement also served as the multi-stream Internet2 Land Speed Record. More formally, 23,888,060,000,000,000 meters-bits/second.)
 Achievement Award for *Green Destiny*, Los Alamos Awards Program, July 2002.
 Certificate of Appreciation, Women's Career Development Mentoring Award, 2000.
 Outstanding Mentor Award, 2000.
 International Who's Who in Information Technology, 1998.
 Senior Referee, IEEE Computer Society, 1996. (See December 1996 issue of IEEE Computer)
 Conference Travel Grant Award, Fall 1994.
 Conference Travel Grant Award, Spring 1994.
 Best Paper Award, 10th Annual International Conference on Advanced Science and Technology, 1994.
 Outstanding Teaching Assistant Award, 1991.
 The Pennsylvania State University Dean's Fellowship, 1988-1989.
 Lance Stafford Larson Award, IEEE Computer Society, 1988.
 Student Marshal (Magna Cum Laude) in Computer Engineering, 1988.
 Best Student Paper, IEEE Pennsylvania Beta Chapter, 1988.
 National Finalist in the Clara Wells Piano Competition, 1983.

PRESS COVERAGE

Feature Story

- “Bandwidth Challenge Teams Push Performance Envelope at SC2003,” *GRIDtoday*, December 8, 2003.
<http://www.gridtoday.com/03/1208/102358.html>.
<http://www.gridtoday.com/03/1208/102380.html>.
- “Bandwidth Challenge Teams Push Performance Envelope at ACM's SC2003 Conference,” *ACM TechNews*, December 1, 2003.
<http://www.acm.org/technews/articles/2003-5/1201m.html#item4>.
- “Bandwidth Challenge Teams Push Networking Performance Envelope at SC2003 Conference – Sustained 23 Gigabits Per Second Sets New Record,” *Silicon Valley Biz Ink*, December 1, 2003.
<http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=SVBIZINK2.story&STORY=/www/story/11-25-2003/0002065579&EDATE=TUE+Nov+25+2003,+07:41+PM>.
- “Bandwidth Challenge Teams Push Performance Envelope at SC2003,” *GRIDtoday: Breaking News*, November 26, 2003.
<http://www.gridtoday.com/breaking/982.html>.
- “Interview with Wu-chun Feng, LANL & OSU,” *HPCwire*, November 20, 2003.
<http://www.tgc.com/hpcwire/hpcwireWWW/03/1120/106520.html>.
- “Efficient Supercomputing with Green Destiny,” November 19, 2003.
<http://slashdot.org/articles/03/11/19/2156246.shtml?tid=126&tid=161&tid=187>.
- “Green Destiny: A ‘Cool’ 240-Node Supercomputer in a Telephone Booth,” *BBC News*, August 2003. Exact date(s) unverified.
- “Los Alamos Sets Internet Speed Mark in Guinness Book,” *GRIDtoday*, Vol. 2, No. 31, August 4, 2003.
<http://www.gridtoday.com/03/0804/101764.html>. Also *Quote of the Week* for *GRIDtoday*: “While average network speeds double every year, processor speeds are doubling only every 18 months. These trends mark the beginning of a revolution in the way we do computing.”
- “Los Alamos Hits The Pipe In Record Time,” *IEEE Spectrum Online*, July 31, 2003.
<http://www.spectrum.ieee.org/WEBONLY/newslog/news07-31-03.html>.
- “Internet Speed Record in Guinness World Records Book,” *HPCwire*, July 25, 2003.
<http://www.tgc.com/hpcwire/hpcwireWWW/03/0725/105593.html>.

"Blazing Speed," *KOAT-TV* in Albuquerque (ABC Affiliate), July 25, 2003.

"Los Alamos TCP Pipe Hits 8.5 Gbps," *SpaceDaily*, July 25, 2003.
<http://www.spacedaily.com/news/internet-03u.html>.

"Los Alamos Sets Internet Speed Mark in Guinness Book," *GRIDtoday: Breaking News*, July 24, 2003.
<http://www.gridtoday.com/breaking/781.html>.

"Internet Speed Mark with CERN Participation in Guinness World Records Book," *Primeur Monthly*, July 24, 2003.
<http://www.hoise.com/primeur/03/articles/monthly/AE-PR-09-03-6.html>.

"Internet Speed Record in Guinness World Records Book," *EurekaAlert!*, July 24, 2003.
<http://www.eurekaalert.org/features/doc/2003-07/danl-ism072503.php>.

"Internet2 Land Speed Record," Listed electronically in the *Guinness World Records*, July 7, 2003.
<http://www.guinnessworldrecords.com/index.asp?id=58445>.

"Brief: Los Alamos Speeds Software Search," *Supercomputer News: Systems and Software*, July 1, 2003.
<http://www.billswrite.com/supers/supernews03.html>.

"Brief: Supercomputers Get Even Bigger," *Supercomputer News: Systems and Software*, July 1, 2003.
<http://www.billswrite.com/supers/supernews03.html>.

"Brief: Smaller," *Supercomputer News: Systems and Software*, July 1, 2003.
<http://www.billswrite.com/supers/supernews03.html>.

"Los Alamos Lends Open-Source Hand to Life Sciences," *The Register*, June 29, 2003.
<http://www.theregister.com/content/61/31471.html>.

"Supercomputing in Small Spaces," *Supercomputer News: Systems and Software*, June 17, 2003.
<http://www.billswrite.com/supers/supernews03.html>.

"New Data Transfer Speed Record," *Supercomputer News: Systems and Software*, June 6, 2003.
<http://www.billswrite.com/supers/supernews03.html>.

"New High-Speed Record: A Terabyte Flies from California to Geneva," *Broadband Reports.com*, June 9, 2003.
<http://www.dsreports.com/shownews/29075>.

"Data Speed Record Crushed," *The Register*, June 6, 2003.
<http://www.theregister.com/content/5/31085.html>.

"Reg Conference Will Explore 'Future Computing'," *The Register*, June 2, 2003.
<http://www.theregister.com/content/31/30973.html>.

"Transfer DVDs in Seconds," *TechTV*, May 20, 2003.
<http://www.techtv.com/screensavers/broadband/story/0,24330,3433096,00.html>.

"Record Transfer of Data Between CERN and California," *CERN Bulletin*, April 14, 2003.
<http://bulletin.cern.ch/eng/articles.php?bullno=16/2003&base=art&artno=BUL-NA-2003-040>.

"The RADIANT Team Shines in Los Alamos," *Los Alamos Monitor*, Silicon Mesa Insert, March 28, 2003. No web-site link.

"Researchers Set Internet Record," *Light Reading @* <http://www.lightreading.com>, March 20, 2003.
http://www.lightreading.com/document.asp?doc_id=29397.

"Researchers Set Data Speed Record from U.S. to Europe," *InfoWorld*, March 17, 2003.
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"Researchers Set Data Speed Record from U.S. to Europe," *ITWorld.com*, March 17, 2003.
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"Researchers Set Data Speed Record from U.S. to Europe," *Network World Fusion*, March 17, 2003.
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"Servers on the Edge: Blades Promise Efficiency and Cost Savings," *CIO Magazine*, March 15, 2003.
http://www.cio.com/archive/031503/et_article.html (Emerging Technology section).

"LANL Researchers Outfit the 'Toyota Camry' of Supercomputing for Bioinformatics Tasks," *BioInform*, February 3, 2003.
 Electronic version only available via subscription at <http://www.bioinform.com>.

"Developments to Watch: Innovations," *BusinessWeek*, December 2, 2002. Electronic version only available via subscription at
<http://www.businessweek.com>.

"Supercomputing in Small Spaces: LANL Researcher Sees Green in HPC's Destiny," *NCSA Access Online*, October 23, 2002.
<http://access.ncsa.uiuc.edu/Stories/SmallSpaces/>.

"Not Your Average Supercomputer," *Communications of the ACM*, Vol. 45, No. 8, pg. 9, August 2002. Electronic version only available via subscription at <http://www.acm.org>.

"Dr. Dobb's News & Views: 'Green Destiny' Runs Cool," *Dr. Dobb's Journal*, August 2002. Electronic version only available via subscription at <http://www.ddj.com>.

"Energy-Efficient Supercomputers," *EurekaAlert!*, August 12, 2002.
<http://www.eurekaalert.org/features/doc/2002-08/danl-es081202.php>.

"Los Alamos Experiments with Server Blades," *ComputerWorld*, July 8, 2002.
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"Building a Better Supercomputer," *E Source Tech News / PNM E-Biz Update*, Vol. 2, No. 7, July 2002.
http://www.pnme-bizupdate.com/issues/1/2002_07/7.htm.

- "At Los Alamos, Two Visions of Supercomputing," *HPCwire*, June 28, 2002.
<http://www.tgc.com/hpc-bin/artread.pl?direction=Current&articlenumber=102986>.
- "Competing Visions of Supercomputing," *International Herald Tribune*, June 26, 2002.
<http://iht.com/articles/62593.html>.
- "United States II: Supercomputers Weigh Power Versus Efficiency," *Global Security Newswire*, June 25, 2002.
http://www.nti.org/d_newswire/issues/2002/6/25/7s.html.
- "At Los Alamos, Two Visions of Supercomputing," *The New York Times*, June 25, 2002. Electronic version available via free subscription:
<http://www.nytimes.com/2002/06/25/science/physical/25COMP.html>.
- "Supercomputer Eats More Power Than A Small City," *The Register*, June 25, 2002.
<http://www.theregister.co.uk/content/61/25879.html>.
- "Two Takes on Future Computing," *Tech Blog*, June 25, 2002.
<http://www.techblog.com/techarchive/002547.html>.
- "Two Directions for the Future of Supercomputing," *slashdot.org*, June 25, 2002.
<http://slashdot.org/articles/02/06/25/0333249.shtml?tid=137>.
- "Green Destiny," *Boomernomics*, June 6, 2002.
<http://www.boomernomics.net/VitaminB/jun0602.htm>.
- "Supercomputing Goes Holistic," *Tech Blog*, June 5, 2002.
<http://www.techblog.com/techarchive/002430.html>.
- "Beowulf Gets the Blade," *The Australian*, June 4, 2002.
<http://australianit.news.com.au/articles/0,7204,4429216%5e15397%5e%5enbv%5e,00.html>.
- "Researchers Deliver Supercomputing in Smaller Package," *E-Commerce Times*, June 4, 2002.
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- "Researchers Deliver Supercomputing in Smaller Package," *NewsFactor Network*, June 4, 2002.
<http://www.newsfactor.com/perl/story/18058.html>.
- "Researchers Deliver Supercomputing in Smaller Package," *TechExtreme*, June 4, 2002.
<http://www.techextreme.com/perl/story/18058.html>.
- "Researchers Deliver Supercomputing in Smaller Package," *Yahoo! Finance*, June 4, 2002.
http://story.news.yahoo.com/news?tmpl=story&cid=75&ncid=75&e=2&u=/nf/20020604/tc_nf/18058.
- "Science Matters: Computer World Faces Heat Wave," *Santa Fe New Mexican*, June 3, 2002.
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- "Smaller, Slow Supercomputers May Someday May Win The Race," *ScienceDaily*, June 3, 2002.
<http://www.sciencedaily.com/releases/2002/06/020603072007.htm>.
- "Supercomputing Coming to a Closet Near You?" *HPCwire*, May 31, 2002.
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- "Smaller, Slower Supercomputers May Someday Win The Race," *HPCwire*, May 31, 2002.
<http://www.tgc.com/hpc-bin/artread.pl?direction=Current&articlenumber=102816>.
- "Smaller, Slower Supercomputers May Someday Win The Race," *Supercomputing Online*, May 31, 2002.
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- "Smaller Supercomputers May Someday Win the Race," *Cosmiverse*, May 31, 2002.
<http://www.cosmiverse.com/news/tech/tech05310202.html>.
- "Smaller, Slower Supercomputers May Someday Win The Race," *EurekAlert!*, May 29, 2002.
<http://www.lanl.gov/worldview/news/releases/archive/02-058.shtml>.
- "Smaller, Slower Supercomputers May Someday Win The Race," *LANL News & Public Affairs*, May 29, 2002.
http://www.eurekalert.org/pub_releases/2002-05/danl-sss053002.php.
- "Lean, 'Green' Computer Thrives: Machine Runs in Harsh Conditions," *Albuquerque Journal*, May 28, 2002. No web-site link.
- "Team Works on Small Supercomputer," *Amarillo Globe News*, May 28, 2002.
http://www.amarillonet.com/stories/052802/usn_teamworks.shtml.
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HONOR SOCIETIES

Phi Kappa Phi Honor Society
Tau Beta Pi Engineering Honor Society
Eta Kappa Nu Electrical & Computer Engineering Honor Society
Golden Key Honor Society
 National Society of Professional Engineers

HOBBIES

Sports: cycling, ultimate frisbee, weightlifting, snowboarding, skiing (x-c & downhill), and running.
Music: piano – performance and composition.

REFERENCES

Available upon request.